



Operations Notes

FOS Team @ ESAC

Reported by:

J. Fauste/J.M. Castro Cerón

Topic:

Date:

Issue:

FOS Report for week 53, year 2020

From 04 JAN 2021 to 11 JAN 2021

1.0

1 General Comments

Activities scheduled for this week are those planned for the 01st calendar week of 2021:

04 JAN 2021 to 11 JAN 2021 (DoYs 004 to 011).

Mission Planning for this week was scheduled together with that of week 53, year 2020. The current report contains only the events that occurred during week 01, year 2021. The Gantt chart included in this report contains the two weeks combined.

The following routine activities were planned this week (see Gantt chart on next page and CRF 938).

- One Warm NIR Calibration on 04 JAN 2021 (DoY 004) with ETO 04:51:55z (orbit 58724; DESCENDING: thermally UNSTABLE) and with the following expected calibration values:

B.T.	=	3.64°
R.M.S.	=	0.05
Sun elevation	=	9.98°
Moon elevation	=	-67.22°
R.A.	=	10.74°
DEC.	=	-18.14°

- Two LONG Calibrations on 04 JAN 2021 (DoY 004), which encompassed two ascending semi-orbital periods starting at 13:08:00z (orbit 58729) and 14:58:00z (orbit 58730).
- One FTR Calibration on 06 JAN 2021 (DoY 006) with ETO 16:07:12z (orbit 58760; ASCENDING: thermally UNSTABLE) and with the following expected calibration values:

B.T.	=	3.52°
R.M.S.	=	0.14
Sun elevation	=	-14.58°
Moon elevation	=	57.90°
R.A.	=	191.59°
DEC.	=	27.31°

- Local Oscillator Calibrations every 10 minutes.
- X band Passes over ESAC and Svalbard.

2 Mission Planning Deviations

As per ESA-CNES management agreement, CRF 938 spanned – exceptionally– a two-week period to cover the Christmas/New Year Holiday Season.



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Schedule Name: 2020_w53_2021_w01_cr ### Display start: 28-12-2020 00:00:00.000 ### Display end: 29-12-2020 09:36:00.000

Week Of Year	W53/2020	W01/2021
SMOS Sequences		
Disable_Cyclic_Function_SEQ	◆	◆ ◆ ◆
Enable_Cyclic_Function_SEQ	◆	◆ ◆ ◆
External_Calibration_Full_OBOP_SEQ		█
External_Calibration_NIR_Full_OBOP_SEQ		█
Int_LO_Phase_Cal_Noise_Full_Ext_SEQ		█
Int_LO_Phase_Cal_Noise_Full_NotExt_Q		█
Long_Calibration_Full_OBOP_SEQ		█
PMS_Offset_Calibration_Full_SEQ		
SBand_Visibility_SEQ		
Update_Cyclic_LO_Pt_Cal_NoU_Full_Ext_S		◆ ◆
Update_Cyclic_LO_Pt_Cal_NoU_Full_NotExt_SEQ		◆ ◆
XB_Cmd_Downlink_Sb_SEQ		
XB_Cmd_Downlink_Vpa_SEQ		



3 TC Failures

None.

4 On Board Anomalies

- A MM double bit error impacted partition P11 2021-01-06T08:23:40,059z (DoY 006). The following parameters went out of limits in the PLPC system:

2021.006.08.23.40,059z DMASME50 DB Err In P11

This anomaly was geolocated over the western Pacific Ocean, due north of the Northern Mariana Islands:

LAT. = 19.88°

LONG. = 147.47°

At the time of the anomaly, the position of the MM pointers were as follows:

READ = 1087781 (partition P2)

WRITE = 1150341 (partition P2)

There were no science data losses associated with this anomaly because it affected P11 (i.e. a spare partition) while both, Read and Write, pointers were on P2.

- The MIRAS instrument MM, partition P7, latched up 2021-01-07T09:51:47,124z (DoY 007). The following parameters went out of limits in the PLPC system:

2021.007.09.51.47,124z DMASME05 LU Switch P7

2021.007.09.51.47,124z DMASME37 SDD LU Detected

This anomaly was geolocated over the coast of Antarctica, due SSW of Australia:

LAT. = -74.66°

LONG. = 89.81°

There were no science data losses associated with this anomaly because it affected partition P7, while the Read and Write pointers were in partitions P1 and P2 respectively.

Recovery took place Friday 08 JAN 2021, at 10:30:00z (CRF 940).

At the time of the anomaly the position of the MM pointers were as follows:

READ = 895984 (partition P1)

WRITE = 1023414 (partition P2)

5 On Board Events Telemetry

The following RAM Single Bit errors befell this week:

Event Description	Packet ID	Severity	Event Time	Parameters
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RAM Single Bit Error	730	WARNING	2021.005.00.00.03,208	22C35F4
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6 FOS Systems Status

All FOS systems nominal.

7 Data Reception from CNES

All S band passes were correctly received from CNES and successfully processed by the FOS PLPC system.

8 X Band Data Reception in PXMF

None, all S band passes successfully received and processed.

9 Exceptional Activities

None.

10 AOB

None.



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APPENDIX A: OOL s

The following OOLs befell at the time the MIRAS instrument MM, partition P11, was impacted by a double bit error 2021-01-06T08:23:40,059z (DoY 006):

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2021.006.09.44.34,154	2021.006.08.23.40,059	DMASME50	DB Err In P11	FALSE	TRUE

The following OOLs befell at the time the MIRAS instrument MM, partition P7, latched up 2021-01-07T09:51:47,124z (DoY 007):

GS_TIME	OB_TIME	PARAMETER	DESCRIPTION	OOL Value	Check Value
2021.007.13.24.34,369	2021.007.09.51.47,124	DMASME05	LU Switch P7	OFF	ON
2021.007.13.24.34,369	2021.007.09.51.47,124	DMASME37	SDD LU Detected	FALSE	TRUE